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10/528,894	10/17/2005	Robert L. Long	2001B101B	6402

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EXAMINER	
NEGIN, RUSSELL SCOTT	
ART UNIT	PAPER NUMBER
1631	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,894	LONG ET AL.	
	Examiner	Art Unit	
	RUSSELL S. NEGIN	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☒ Claim(s) *35 and 39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/17/05; 2/14/06; 7/5/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Comments

Claims 1-48 are pending and examined in the instant Office action.

Information Disclosure Statements

The information disclosure statements filed on 5 July 2007 and 14 February 2006 have been considered.

The information disclosure statement filed on 17 October 2005 has been considered in part. Specifically, statements of relevance in English for the non-English foreign patent documents EP 238 796 [Fritz et al., 9/30/1987], EP 406 805 [Gleissie et al. 12/12/1995], and JP 02038841 [Jian et al., 2/8/1990] and the non-patent literature document of Modric et al. [Colloid and Polymer Science, 1976] were not given.

Priority

The instant application is a national stage entry of PCT/US03/14565 filed on 8 May 2003. This PCT, in turn is a continuation-in-part of PCT/US02/32767, filed on 15 October 2002. This second PCT claims benefit to provisional application 60/345,337, filed on 9 November 2001. SOME of the instant claims (claims 1-36 and 38-44) require the Raman spectrum to be acquired by a Raman probe inserted ***IN SITU*** into the polymerization reactor system. Out of the three above applications, only PCT/US03/14565 shows this ***IN SITU*** placement of the Raman probe. Consequently,

the benefit date of the instant set of claims is the filing date of PCT/US03/14565 which is **8 May 2003** and NOT 9 November 2001. (The benefit date of claims 37 and 45-48 is ***9 November 2001***.)

Claim Objections

Claims 35 and 39 are objected to because of the following informalities:

Claim 35 lacks a verb in the final "whereby clause" [i.e. "whereby a Raman spectrum correlated to" should be "whereby a Raman spectrum **IS** correlated to"].

Claim 39 ends with two periods.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 13-20, 23, and 30-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "locally" in claims 3, 13, 23, and 30 is a relative term which renders the claim indefinite. The term "locally weighted" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the

invention. In other words, it is indefinite as to the metes and bounds between local weighting as opposed to what weighting is not local.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9, 11-15, 17, 19-28, and 30-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Long et al. [WO 01/09203 A1; published 8 February 2001; on IDS] in light of Geosoft [Geosoft Technical Note, downloaded online from geosoft.com in February 2009; twelve pages unnumbered].

Claim 1 is drawn to a process for determining polymer properties in a polymerization reactor system, the process comprising:

a) obtaining a regression model for determining a polymer property, the regression model including principal component loadings and principal component scores;

b) acquiring a Raman spectrum of a sample comprising polyolefin;

c) calculating a new principal component score from at least a portion of the Raman spectrum and the principal component loadings; and

d) calculating the polymer property by applying the new principal component score to the regression model;

wherein the Raman spectrum acquired in step b) is acquired from a Raman probe inserted IN SITU into the polymerization reactor system.

The document of Long et al. is a Raman analysis system for olefin polymerization control. Specifically, page 3, lines 10-20 of Long et al. state the following:

> Without limiting the present invention to any particular spectroscopic analysis technique, the inventors have observed in a slurry reaction environment a correlation between in-situ collected Raman spectra (a product of Raman spectroscopy) from the liquid phase of the reaction environment and the concentration of at least one reactor constituent. Furthermore, the inventors have discovered that this correlation, in combination with in-situ, real time analysis of at least one reactor constituent in such a reactor will allow for improved control of the final product properties, such as melt flow rate. Improved control of the final product properties is achieved by metering the flow of at least one reactor constituent into the slurry reactor in response to the in-situ measured concentration of at least one reactor constituent.

Consequently, Long et al. is determining polymer properties (such as melt flow rate) in a reactor system wherein the Raman spectra are acquired from a Raman probe *in situ* with the slurry reactor system. [preamble and final “wherein" clause]

Additionally, page 4, lines 11-23 of Long et al. describes a correlation step that correlates olefin polymerization to physical properties to melt flow rate. More specifically, page 19, lines 1-12 of Long et al. teach use of principal component analysis and scores to correlate spectral data to specific polymer properties. [steps a and b]

Additionally, page 19, lines 8-17 of Long et al. teach a specific regression analysis between spectral data and scores that is optimized to produce a predicted value of a property. This model is applied to a portion of the Raman spectrum illustrated in Figure 8 of Long et al. to result in new principal component scores [see for example, page 19, lines 19-30 of Long et al.] [step c]

Additionally, this principal component analysis, when applied to the portion of the Raman spectrum in Figure 8, results in a calculation of a new polymer property as listed

in line 30, page 19 to line 4 on page 20 [i.e. the prediction of MFR (melt flow rate) of polypropylene granules] (step d of claim 1).

While Long et al. describes PCA in detail, Long et al. does not mention the term principal component loadings in the document. Consequently, the Geosoft Technical Note shows that it is inherent to use principal component loadings for PCA analysis (see for example, second page of Geosoft).

With regards to claim 2, Example 3 and Figures 7-8 illustrate a plurality of Raman spectra of sample comprising polyolefins.

With regards to claim 3, the equation on page 19 of Long et al. lists a locally weighted regression model.

With regards to claim 4, the property analyzed in melt flow rate (MFR) [see pages 19-20 of Long et al.].

With regards to claim 5, line 3 of page 20 of Long et al. teaches polypropylene granules.

With regards to claim 6, page 4, lines 11-23 of Long et al. teaches acquiring a Raman spectrum irradiating the sample of polyolefin and collecting the scattered

radiation during sampling interval. Purging and purging fluids are described on page 13, lines 1-10 of Long et al.

With regards to claim 7, the abstract of Long et al. describes a fluidized bed slurry reactor.

With regards to claim 9, page 3, lines 20-25 of Long et al. described the Raman probe being IN SITU with the moving slurry polymer bed.

With regards to claim 11, Figure 1 of Long et al. illustrates a Raman probe IN SITU in the reactor body.

With regards to claim 12, purging the polymer is described in page 13, lines 1-10 of Long et al.

Independent claim 13 is the same as dependent claim 4 in independent form. Consequently, since claim 4 is anticipated, independent claim 13 is anticipated as well.

Claim 14 is drawn to the same subject matter as claim 2, but is dependent from claim 13. Consequently, since claim 2 is anticipated, claim 14, is anticipated as well.

Claim 15 is drawn to the same subject matter as claim 6, but is dependent from claim 13. Consequently, since claim 6 is anticipated, claim 15, is anticipated as well.

Claim 17 is drawn to the same subject matter as claim 9, but is dependent from claim 13. Consequently, since claim 9 is anticipated, claim 17, is anticipated as well

Claim 19 is drawn to the same subject matter as claim 11, but is dependent from claim 13. Consequently, since claim 11 is anticipated, claim 19, is anticipated as well.

Claim 20 is drawn to the same subject matter as claim 12, but is dependent from claim 13. Consequently, since claim 12 is anticipated, claim 20, is anticipated as well.

Independent claim 21 is drawn to the same subject matter as independent claim 1 with the additional limitation of adjusting at least one polymerization parameter based on the calculated polymer property. Page 8, lines 5-12 of Long et al. teach that the polymerization reaction control is achieved by metering the flow of reactants into the reactor in response to Raman sampling data. Page 8, lines 21-30 explains in further detail what the control variable and manipulated variables are. For example, melt flow rate is a control variable, and hydrogen flow rate is a manipulated variable.

Claim 22 is drawn to the same subject matter as claim 2, but is dependent from claim 21. Consequently, since claim 2 is anticipated, claim 22, is anticipated as well.

Claim 23 is drawn to the same subject matter as claim 3, but is dependent from claim 21. Consequently, since claim 3 is anticipated, claim 23, is anticipated as well.

Claim 24 is drawn to the same subject matter as claim 4, but is dependent from claim 21. Consequently, since claim 4 is anticipated, claim 24, is anticipated as well.

Claim 25 is drawn to the same subject matter as claim 5, but is dependent from claim 21. Consequently, since claim 5 is anticipated, claim 25, is anticipated as well.

Claim 26 is drawn to the same subject matter as claim 6, but is dependent from claim 21. Consequently, since claim 6 is anticipated, claim 26, is anticipated as well.

Claim 27 is drawn to the same subject matter as claim 7, but is dependent from claim 21. Consequently, since claim 7 is anticipated, claim 27, is anticipated as well.

With regards to claim 28, hydrogen flow rate, total feed rate, and catalyst flow rate are described in page 8 lines 20-25 of Long et al. as being parameters that are manipulated.

Independent claim 30 is drawn to the same subject matter as independent claim 21 with the additional limitation obtaining polymer properties comprising melt flow rate.

As explained for claim 21 above, page 8, lines 5-12 of Long et al. teach that the polymerization reaction control is achieved by metering the flow of reactants into the reactor in response to Raman sampling data. Page 8, lines 21-30 explains in further detail what the control variable and manipulated variables are. For example, melt flow rate is a control variable, and hydrogen flow rate is a manipulated variable.

Claim 31 is drawn to the same subject matter as claim 2, but is dependent from claim 30. Consequently, since claim 2 is anticipated, claim 31, is anticipated as well.

Claim 32 is drawn to the same subject matter as claim 6, but is dependent from claim 30. Consequently, since claim 6 is anticipated, claim 32, is anticipated as well.

With regards to claim 33, hydrogen flow rate, total feed rate, and catalyst flow rate are described in page 8 lines 20-25 of Long et al. as being parameters that are manipulated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

35 U.S.C. 103 Rejection #1:

Claims 8, 10, 16, 18, 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long et al. as evidenced by Geosoft as applied to claims 1-7, 9, 11-15, 17, and 19-20 above.

Claims 8, 16, 29 and 34 are dependent from claims 1, 13, 21, and 30 respectively and comprise:

(i) obtaining a second regression model for determining a second polymer property, the second regression model including second principal component loadings and second principal component scores;

(ii) calculating a new second principal component score from at least a portion of the Raman spectrum and the second principal component loadings; and

(iii) calculating the second polymer property by applying the new second principal component score to the second regression model.

Claims 10 and 18 are further limiting wherein the Raman probe is inserted in situ into the reactor comprising the location of the product discharge.

Long et al. teaches a process for determining polymer properties in a polymerization reaction, as described above. Long et al. also teach in the abstract that the in situ location of the Raman probe allows reactor conditions to be metered.

While Long et al. teaches regression to identify predicted properties of a first polymer property, and Long et al. identifies second polymer properties such as ethylene concentration (page 22 of Long et al.) or polyethylene copolymer measurements (page 23 of Long et al.), Long et al. does not explicitly state that the regression and PCA analysis for melt flow rate (as described above) is applied to these other properties. Additionally, Long et al. does not give an explicit location of the in situ probe within the reactor.

It would have been obvious to someone of ordinary skill in the art at the time of the instant invention to apply the regression analysis with regards to melt flow rate as described in Example 3 of Long et al. to the other properties listed above, wherein the motivation would have been that regression/PCA analysis has the advantage of providing clear and optimal parameters to fit the equations describing the parameters of interest (see for example, the equation on page 23 of Long et al.). It would have been further obvious to someone or ordinary skill in the art at the time of the instant invention to place the in situ probe near the discharging of the product stream wherein the motivation would have been that constituents (i.e. the product output and reaction efficacy) are more easily measured (i.e. "metered") near the location of the probe [see

abstract of Long et al., page 3 lines 10-20 of Long et al. and page 8, lines 10-12 of Long et al.]

35 U.S.C. 103 Rejection #2:

Claims 35-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selliers [US Patent 6,144,897; issued 7 November 2000; on IDS] in view of Long et al. as evidenced by Geosoft.

Claim 35 is drawn to a gas phase polymerization reactor system wherein gaseous monomer is introduced into a reactor body and polymer is discharged from the reactor, the improvement comprising inserting a Raman probe in situ into said reactor system, whereby a Raman spectrum is correlated to at least one property to at least one property selected from the group consisting of a polymer property and a reactor operability property is obtained.

Independent claim 37 is drawn to a gas phase polymerization process wherein the gaseous monomer is introduced into a reactor body, polymer is produced in said reactor body, and polymer product is discharged form the reactor, the improvement comprising acquiring a Raman spectrum correlated with at least one property selected from the group consisting of a polymer property and a reactor operability property.

The patent of Selliers studies a control method for the processes of syntheses of chemical products. Specifically, Selliers states in column 11, lines 8-12 that the process control of the invention is useful in gas phase polymerization reactions.

Selliers does not show the in situ aspect of the instant claims, or that the Raman spectrum is correlated to a property of interest.

Long et al. teaches a process and apparatus for determining polymer properties in a polymerization reaction, as described above. Long et al. also teach in the abstract that the in situ location of the Raman probe allows reactor conditions to be metered.

With regards to claims 36 and 38-39, the reactor system of Long et al. is an in situ system that continually monitors ("meters") the constituents of the reactor [see for example, abstract of Long et al.].

With regards to claims 40 and 41, lines 1-10 on page 13 of Long et al. describe purging with nitrogen gas.

With regards to claim 42, the limitations have been discussed a part of Long et al. in the rejection of instant claim 1.

With regards to claim 43 and 44, hydrogen flow rate, total feed rate, and catalyst flow rate are described in page 8 lines 20-25 of Long et al. as being parameters that are manipulated.

It would have been obvious to someone of ordinary skill in the art at the time of the instant invention to modify the gas phase polymerization reactor of Selliers by use of

the in situ Raman assessed polymerization reactor of Long et al. wherein the motivation would have been that the in situ aspect of Long et al. has the advantage of measuring (or "metering" as stated in the abstract of Long et al.) the reactor constituents more conveniently by being located within the reactor. There would have been a reasonable expectation of success of applying the regression and PCA theory for a liquid/solid phase reactor of Long et al. to the gas phase reactor of Selliers et al. because in situ probes are equally applicable to gas phase as well as liquid/solid phase reactors. Additionally, the PCA and regression theory of Long et al. is general and applicable to the analysis of Selliers.

35 U.S.C. 103 Rejection #3:

Claims 37 and 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrabba et al. [US Patent 5,112,127; issued 12 May 1992] in view of Limb et al. [Applied Physics Letters, volume 68, 1996, pages 2810-2812].

Independent claim 37 is drawn to a gas phase polymerization process wherein the gaseous monomer is introduced into a reactor body, polymer is produced in said reactor body, and polymer product is discharged form the reactor, the improvement comprising acquiring a Raman spectrum correlated with at least one property selected from the group consisting of a polymer property and a reactor operability property.

Claim 45 is further limiting comprising extractive sampling.

Claim 46 is further limiting comprising sampling the product location.

Independent claim 47 is drawn to a gas phase polymerization reactor system wherein gaseous monomer is introduced into a reactor body and polymer is discharged from the reactor, the improvement comprising providing a Raman probe in an extractive sampling system whereby a Raman spectrum correlated to at least one property selected from the group consisting of a polymer property and a reactor operability property is obtained.

Claim 48 is further limiting wherein the Raman sample takes place at a location comprising the exiting point of the product.

[Note that there is no "in situ" requirement of the Raman probe in these claims].

The patent of Carrabba et al. describes measuring Raman spectra over optical fibers.

Specifically, the cover Figure shows a Raman probe and column 2, lines 12-27 suggest a use of the Raman probe for chemical vapor deposition analysis wherein the probe monitors chemical fluxes that occur in the gas phase reactions.

Carrabba et al. does not show that the specific chemical vapor deposition may result in gas phase polymerization.

The article of Limb et al. demonstrates the growth of polymer thin films using chemical vapor deposition [see title and abstract]. In Figures 1 and 4 of Limb et al. the deposited product is sampled by spectroscopy and imaging, respectively.

It would have been obvious to someone of ordinary skill in the art at the time of the instant invention to modify the suggestion of Raman probes in Carrabba et al. for

chemical vapor deposition by use of the gas phase polymerization techniques of Limb et al. wherein the motivation would have been that the gas phase polymerization of Teflon in Limb et al. results in a more desirable form and configuration of Teflon the deposited on a surface [see first paragraph of the introduction of Limb et al.]

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Double Patenting Rejection #1:

Claims 1-8, 13-16, and 21-34 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 7,116,414 in view of Long et al. [WO 01/09203 A1; published 8 February 2001; on IDS]

Instant claims 1-8, 13-16, and 21-34 are identical to claims 1-26 of '414 with the exception that the claims of '414 lack the final "wherein" clause that requires the Raman probe to be located in situ. Long et al. describes in the abstract the use of in situ Raman probes for assessing polymerization [see abstract]. Long et al. describes that it would be obvious to put the probe in the reactor for closer metering of reactor constituents.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify the process for determining polymer properties in a polymerization reactor system of ‘414 by use of the in situ probe of Long et al. wherein the motivation would have been that the location of the probe in the reactor allows for closer metering of reactor constituents [see abstract of Long et al.]

Double Patenting Rejection #2:

Claims 1-8, 13-16, 21-25, 28-29, and 30-34 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 9, 13-16, 20-24, 28-29 and 33-37 of U.S. Patent No. 7,106,437 in view of Long et al. [WO 01/09203 A1; published 8 February 2001; on IDS]

Instant claims 1-8, 13-16, 21-25, 28-29, and 30-34 are nearly identical to claims 1-6, 9, 13-16, 20-24, 28-29 and 33-37 of '437 with the exception that the claims of '437 lack the final "wherein" clause that requires the Raman probe to be located in situ. Long et al. describes in the abstract the use of in situ Raman probes for assessing polymerization [see abstract]. Long et al. describes that it would be obvious to put he probe in the reactor for closer metering of reactor constituents. Additionally, the claims of '437 are narrower in that they require use of a slurry bed.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify the process for determining polymer properties in a slurry polymerization reactor system of '437 by use of the in situ probe of Long et al. wherein the motivation would have been that the location of the probe in the reactor allows for closer metering of reactor constituents [see abstract of Long et al.]

Conclusion

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the central PTO Fax Center. The faxing of such pages must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The Central PTO Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Negin, whose telephone number is (571) 272-1083. The examiner can normally be reached on Monday-Friday from 7am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Marjorie Moran, Supervisory Patent Examiner, can be reached at (571) 272-0720.

Information regarding the status of the application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information on the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/RSN/
Russell S. Negin
20 February 2009

/Marjorie Moran/
Supervisory Patent Examiner, Art Unit 1631